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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------|-------------|-----------------------|---------------------|------------------|
| 10/731,358 | 12/09/2003 | Alexander P. Routberg | 0R696-71036 | 4414 |
| 32009 | 7590 | 11/10/2005 | EXAMINER | |
| BRADLEY ARANT ROSE & WHITE LLP | | | VO, TUYET THI | |
| 200 CLINTON AVE. WEST | | | ART UNIT | |
| SUITE 900 | | | PAPER NUMBER | |
| HUNTSVILLE, AL 35801 | | | 2821 | |

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

27

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|------------------------------|-------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/731,358 | Applicant(s) ROUTBERG ET AL. | |
| | Examiner Tuyet Vo | Art Unit 2821 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,14 and 16 is/are rejected.
- 7) ☒ Claim(s) 4,8-13 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

Indication of allowable subject matter issued in the previous action has been withdrawn due to a new ground rejection is provided as follow.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 6, lines 1 and 2, a recitation of "the feed system creates a layer of cooling gas adjacent to the interior of the plasma generator" raises a confusion since the cooling gas being generated within the plasma generator, therefore, it occupies a part of total interior of plasma generator so how it can be a location that adjacent to the interior of the plasma generator unless the cooling gas being generated from the outside of the generator.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

Art Unit: 2821

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2 and 16 are rejected under the judicially created doctrine of double patenting over claims 1, 18 and 22 of U. S. Patent No. 6,781,087 B1 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a plurality of pneumatic feed rings located within a plasma generator which is supplied/energized by an alternating current and a plurality of electrodes generates an arc to heat the plasma gas (working stream).

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chism et al. (US Pat. 6,781,087), hereinafter Chism.

8. Chism discloses substantially the claim invention applied to claims 1, 2 and 16 as indicated above. However, Chism does not disclose the feeding system supplied to the plasma generator at a tangential angle or the alternating current power source comprises a multiple phase transformer that connects each electrode to conventional alternating current utility network or the

Art Unit: 2821

ac power source operates at frequency of 1-10 KHz. The above limitations are a matter of design choice in order to extend or improve the system such implementations are considered as a routine of ordinary skill in the art such as a feeding system can be supplied to the plasma generator in any manner, perpendicular or an angle with the generator wall, as long as it meets its desired flowing and the ac power source can be operated at any frequency range as long as it suited. Similarly to the ac power source which utilizes one or multiphase transformer in order to increase the power as well as the timing for driving the plasma system in a desired manner.

Allowable Subject Matter

9. Claims 4, 8-13 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to disclose four feeding rings located inside of the plasma generator as required in claim 4 or the number of phases of the transformer is equal to the number of electrodes as required in claim 7. The prior art also lacks to support the plasma generator connected to an alternating current source via at least one separation filter as required in claim 15.

Citation of pertinent prior art

11. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Nakahigashi et al. (US Pat. 5,651,825) discloses plasma generating apparatus and plasma processing apparatus.

Correspondence

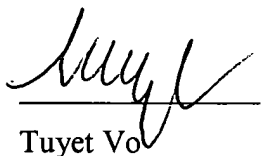
Art Unit: 2821

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571 273 8300 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 272 2800.

Information regarding the status of an application or status information for publishing/unpublishing applications may be obtained from the Patent Application Information Retrieval (PAIR) system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the PAIR system, contact the Electronic Business Center (EBC) at toll free 866-217-9197.



Tuyet Vo

Primary Examiner

November 08, 2005